

## Curriculum Vitae

Laura Anne Lowery, PhD

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<https://profiles.bu.edu/Laura.Lowery>

March 2022

### Academic Training:

6/2000 BS Revelle College, University of California, San Diego; Cum Laude, Biology  
6/2001 MS University of California, San Diego; Biology  
6/2008 PhD Massachusetts Institute of Technology, Cambridge, MA; Biology

### Additional Training:

7/2008-12/2011 Postdoctoral Fellow in Cell Biology, Mentors: David Van Vactor and Gaudenz Danuser, Harvard Medical School, Boston, MA

### Academic Appointments:

1/2012-12/2013 Instructor, Harvard Medical School, Boston, MA  
1/2014-8/2018 Assistant Professor, Biology Department, Boston College, Chestnut Hill, MA  
9/2018-12/2019 Associate Professor, with Tenure, Biology Department, Boston College, Chestnut Hill, MA  
1/2020-present Associate Professor, Section of Hematology and Medical Oncology, Department of Medicine, Boston University Medical Center, Boston, MA

### Honors:

#### Institutional

6/1997 Ernest C. Mort Leadership Excellence Award, Revelle College, University of California, San Diego  
6/2000 Revelle College Outstanding Academic and Leadership Excellence Award  
6/2000 Cum Laude, Revelle College, University of California, San Diego  
9/2004 Abraham J. Siegel Fellowship, Whitehead Institute  
3/2017 Boston College "Ever to Excel" Reverend John R Trzaska SJ (Teaching) Award

#### Regional

6/1999 Porter Beach Foundation Summer Research Grant  
4/2004 North East Society of Developmental Biology Poster Award  
3/2011 North East Society of Developmental Biology Best Oral Presentation Award  
3/2012 North East Society of Developmental Biology Best Oral Presentation Award  
3/2013 North East Society of Developmental Biology Poster Presentation Award  
9/2018 Charles H. Hood Foundation 2018-2019 Bridge Funding Award

#### National

6/1998 Outstanding Student of the Year, National Association of College and Univ Res Halls  
5/2005 NIH/NIMH Ruth L. Kirschstein NRSA Pre-doctoral Fellowship  
6/2005 Developmental Biology Gordon Conference Poster Award  
8/2008 NIH/NINDS Ruth L. Kirschstein NRSA Post-doctoral Fellowship  
2/2012 NIH/NIMH K99 Pathway to Independence Award  
10/2012 Growth Cones and Axon Regeneration RegenBase Travel Fellowship  
10/2012 Growth Cones and Axon Regeneration RegenBase Oral Presentation Award  
6/2016 March of Dimes Research Award  
7/2016 American Cancer Society Research Scholar Award

## Laura Anne Lowery, PhD — CV

### Departmental, School and University Committees:

#### **Boston College**

##### **Biology Department**

10/2013-3/2014 Member, Graduate Program Committee  
1/2014-12/2017 Member, Faculty Search Committee  
6/2018-3/2019 Chair, Faculty Search Committee

##### **University**

1/2014-1/2015 Member, Strategic Sciences Planning Committee  
1/2014-12/2019 Member, Core Imaging Facility Committee  
4/2017-12/2019 Co-Chair, Beckman Scholars Steering Committee  
6/2015-5/2018 Member, Institutional Animal Care and Use Committee  
6/2017-6/2018 Member, Pew Biomedical Scholars Program Internal Review Committee  
12/2017-12/2019 Member, Pre-Medical Committee  
2/2019-12/2019 Coordinator, Churchill Scholarship Selection Committee

#### **Boston University**

12/2020-present Chair, Anti-Racism Steering Committee, Department of Medicine, Hematology Oncology Section  
12/2020-present Member, Racial Equity Champions Committee, Boston University Medical Group

### Other Professional Development Activities, Boston University:

2020-2021 Interviewer, Hematology Oncology Section Fellowship Candidate Interviews  
09/2020-05/2021 Participant, Women's Leadership Program  
11/2020, 10/2021 Member, Blue Ribbon Panel, Evans Days (poster judging)  
12/2020-present Facilitator, LIFT Bystander Training for Microaggressions Workshop  
2021-2022 Interviewer, PhD Program in Biomedical Sciences  
03/2021 Faculty Participant, Equity Vitality Inclusion Racial Equity Focus Group, BU Medical Group  
09/2021-05/2022 Participant, Narrative Writing Program  
01/2022 Presenter, Diversity and Inclusion Advisory Council  
02/2022-present Director of Diversity, Equity, and Inclusion, Hem Onc Section, Department of Medicine, BU

### Teaching Experience and Responsibilities:

#### **Boston College**

Dates	Course #	Title	Credit hours	Enrollment #
Fall 2013	BIOL879	Topics in Developmental Neurobiology	2	5 undergraduates
Spring 2015	BIOL615	Advanced Cell Biology	2	14 graduates
Spring 2016	BIOL304	Cell Biology	3	102 undergraduates
Spring 2016	BIOL615	Advanced Cell Biology	2	6 graduates
Spring 2017	BIOL304	Cell Biology	3	114 undergraduates
Spring 2018	BIOL304	Cell Biology	3	135 undergraduates
Fall 2018	BIOL304	Cell Biology	3	138 undergraduates
Fall 2018	UNCS2245	Cell Biology and Nutrition Seminar	1	13 undergraduates
Spring 2019	BIOL402	Advanced Cell Biology	3	38 undergraduates
Fall 2019	BIOL402	Advanced Cell Biology	3	38 undergraduates

#### **Boston College Undergraduate Research Course Credit (BIOL491/6) Instructing** (Semester – number of students)

Spring 2014 – 3; Fall 2014 – 6; Spring 2015 – 7; Fall 2015 – 4; Spring 2016 – 5; Fall 2016 – 5; Spring 2017 – 6;  
Fall 2017 – 14; Spring 2018 – 17; Fall 2018 – 16; Spring 2019 – 15; Fall 2019 – 10

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### **Boston College Guest Teaching**

Fall 2015 BIOL489 Investigations in Cellular Re-Programming - 1 guest lecture  
Spring 2016 BIOL489 Investigations in Cellular Re-Programming - 1 guest lecture

### **Boston College, Teaching Development Activities**

2017-2018 Participant, Canvas Learning Analytics Research Group, Academic Technology Advisory Board  
2018-2019 Participant, Faculty Cohort on Teaching, "Called to Serve: Preparing Students for Careers Working With and For Others," year-long monthly workshop  
May 2019 Panelist, Excellence in Teaching Day, "Moving from Theory to Practice in Engaging Student Learning"

### **External Teaching**

08/17 Faculty Instructor, *Xenopus* Imaging Workshop, National Xenopus Resource Center

### **Diversity, Equity, Inclusion and Accessibility Activities:**

#### **Roles**

02/2022-present Director of Diversity, Equity, and Inclusion, Department of Medicine Hem Onc  
10/2021-present CORE (Commitment to Operationalize Racial Equity) Pilot Group, Office of Equity Vitality and Inclusion, BUMG  
12/2020-present Chair, Anti-Racism Steering Committee, Department of Medicine - Hem Onc  
12/2020-present Member, Racial Equity Champions Committee, BU Medical Group  
09/2020-05/2021 Participant, Women's Leadership Program, BU  
03/2021 Participant, Equity Vitality Inclusion Racial Equity Focus Group, BU Medical Group  
12/2020-present Facilitator, LIFT Bystander Training for Microaggressions Workshop

#### **Presentations**

LIFT Bystander Training for Microaggressions Workshops

- Dec 12, 2020 BU Center for Regenerative Medicine Faculty
- March 4, 2021 BUSM - Department of Medicine - Hem Onc Faculty and Staff
- May 25, 2021 BUSM - Department of Medicine - Hem Onc Clinic Nurses
- July 9, 2021 BUSM - Department of Medicine - Hem Onc Clinic Nurses
- Dec 20, 2021 BU Dental School Faculty
- Jan 31, 2022 MS Oral Sciences Program Students
- March 10, 2022 BUSM - Department of Medicine - Hem Onc Faculty

Mini-Presentations Led at Department of Medicine Hem Onc Section Meetings

- May 6, 2021 The importance of confronting racism
- Nov 18, 2021 Book review on The Medical Apartheid: The Dark History of Medical Experimentation on Black Americans from Colonial Times to the Present
- Feb 4, 2022 How to be an ally

02/2021-present Monthly Racial Equity Updates at Department of Medicine Hem Onc Section Meetings  
01/2022 Diversity and Inclusion Advisory Council, on Hem Onc Anti-Racism Committee

#### **Mentoring**

Summer 2020, 2021 - Faculty Mentor to 2 undergraduate students in BU STaRS program  
2017-2019 - Faculty Mentor to 3 undergraduate students in McNairs Scholars Program, Boston College

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### Major Mentoring Activities:

Major Trainees (*only includes trainees that were co-authors on scientific publications, ref # from Bibliography p.14*):

Mentee Name	Dates	Project, product(s)	Current position
<b>Postdoctoral Fellows</b>			
Gary S McDowell, PhD	2014-2016	Microtubules and embryo asymmetry, ref 15	Executive Director, Future of Research Inc
Paula Slater, PhD	2016-2018	Neurodevelopment, ref 18,19,25,37	Post-doc, Pontificia Universidad Católica de Chile
<b>PhD Students</b>			
Elizabeth Bearce, PhD	2014-2019	Cell motility and microtubules, ref 12,20,27,33,34,40 <i>* North East Society of Developmental Biology Oral Presentation Award 2017; *NSF Graduate Research Fellowship</i>	Post-doc, University of Oregon
Burcu Erdogan, PhD	2014-2019	Neurodevelopment and microtubules, ref 12,17,23,33,36,40	Post-doc, Harvard University
Micaela Lasser, PhD	2017-2020	Embryonic development, ref 22,24,26,38,39 <i>*American Society for Human Genetics Poster Award 2018</i>	Post-doc, UC San Francisco, Faculty, University of San Francisco
Garrett Cammarata, PhD	2015-2020	Microtubule plus-end dynamics, ref 15,17,18,19,23,34 <i>*ASCB Travel Award 2019</i>	Scientist, New England Biolabs
<b>Undergraduate Students</b>			
Alina Stout	2013	Microtubule dynamics, ref 10,31,32	Protocol Coordinator, Children's Oncology Group
Anna Faris, MD	2013-2014	Microtubule dynamics, ref 10,12,31	Medical Fellow, University of Michigan (MD at Case Western Cleveland Clinic)
Salvatore D'Amico	2013-2014	Microtubule dynamics, ref 32	Research Project Manager, Boston Medical Center
Belinda Nwagbara, MD	2013-2015	Microtubule dynamics, ref 12,14 <i>* North East Society of Developmental Biology Poster Award 2014</i>	Medical Resident, University of Connecticut
Charlie Baker	2013-2015	Microtubule dynamics, ref 13	Clinical Research Coordinator, Icahn SOM
Matthew Evans	2013-2015	Microtubule dynamics, ref 12,13 <i>* North East Society of Developmental Biology Poster Award 2015 *McCarthy Prize for best thesis in Natural Sciences 2015</i>	MD student, Oxford University
Chris Lucaj	2014-2015	Microtubule dynamics, ref 13	Research technician, Tufts University SOM
Leslie Carandang	2014-2016	Microtubule dynamics, ref 16,27 <i>* North East Society of Developmental Biology Poster Award 2016</i>	MD student, Loyola Stritch School of Medicine
Andrew Francl	2014-2016	Microtubule dynamics, ref 13,17 <i>*Scholar of the College at BC 2016</i>	PhD student, MIT
Patrick Ebbert, MD	2014-2016	Microtubule dynamics, ref 12,13,14,16,32,36	Internal Medicine Intern at Mt Sinai Hospital (MD at University of Pittsburgh SOM)

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<b>Mentee Name</b>	<b>Dates</b>	<b>Project, product(s)</b>	<b>Current position</b>
Erin Rutherford	2014-2016	Microtubule dynamics, ref 12,16,17,27,35 * <i>North East Society of Developmental Biology Poster Award 2016; ASCB Travel Award 2015</i>	PhD student, University of New England
Laurie Hayrapetian	2015-2017	Axon guidance, ref 37	MD student, George Washington University
Jackson Bowers	2015-2017	Microtubule dynamics, ref 16,18	MD student, University of Pennsylvania
Alexandra Mills	2014-2018	Wolf-Hirschhorn syndrome, ref 16,20 * <i>North East Society of Developmental Biology Oral Presentation Award 2018 *Balkema Prize for Best Biology thesis 2018</i>	MD student, University of Pittsburgh
Jessica Tiber	2015-2018	Neurodevelopmental disorders, ref 38	MD student, Quinnipiac University
Eric Lee	2015-2018	Axon guidance, ref 17 * <i>North East Society of Developmental Biology Poster Award 2017</i>	PhD student, UCLA
Oliver Yan	2016-2018	Embryo development, ref 18 * <i>McNair Scholar</i>	MD student, Boston University
Benjamin Pratt	2016-2018	Microtubules and axon guidance, ref 17,27,39	Secondary education teacher, Up Academy Boston
Seung Woo Kim	2016-2019	Microtubules and axon guidance, ref 20,39 * <i>Northeast Craniofacial Meeting Best Flash Talk Award 2018 *Scholar of the College at BC</i>	MD student, Rutgers University
Annika Samuelson	2016-2019	Microtubule-actin interactions, ref 19	MD student, University of Minnesota
Connor Monahan	2016-2019	Microtubules and axon guidance, ref 18,24,39	PhD student, Columbia University
Alexandra Magee	2016-2019	Microtubule-actin interactions, ref 19 * <i>North East Society of Developmental Biology Poster Award 2019</i>	Research assistant, Harvard Medical School
Megan Selig	2016-2019	Wolf-Hirschhorn syndrome, ref 20	MD student, Stony Brook University
Rachael Cella	2016-2019	Wolf-Hirschhorn syndrome, ref 20 * <i>Gateway Scholars Program</i>	MD student, University of Connecticut
Sydney Kim	2016-2019	Intellectual disability disorders, ref 22	Research Assistant
Timothy Zaccaro	2016-2019	Axon guidance, ref 23	Technology Solutions Project Coordinator, ClinicalMind
Jessica Bolduc	2017-2019	Embryonic development and intellectual disabilities, ref 26	Research Assistant, Harvard
Luke Murphy	2017-2019	Embryonic development and intellectual disabilities, ref 26	Jesuit Volunteer Corp
Caroline O'Brien	2018-2019	Embryonic development and intellectual disabilities, ref 26	BS student, Boston College

### Summer Internship Mentoring (visiting students)

<b>Mentee Name</b>	<b>Dates</b>	<b>Mentee position</b>	<b>Summer Program</b>	<b>College/University</b>
Abigail Antoine	2014	Undergrad student	Praxis Program	Smith College
Richard Li	2016	High school student	The Education Cooperative Internship Program	

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Mentee Name	Dates	Mentee position	Summer Program	College/University
Lucas Ashley	2017	Undergrad student	NSF REU Program	UNC Chapel Hill
Noel Taylor	2017	High school student	The Education Cooperative Internship Program	
Christy Abraham	2018	Undergrad student	NSF REU Program	Nova Southeastern University
Ivanna Lai	2018	High school student	The Education Cooperative Internship Program	
Jordan Thomas	2019	Undergrad student	NSF REU Program	Frostburg State University
Andrea Navarrete Vargas	2020	Undergrad student	BU STaRS program	UC Irvine
Hieu Nguyen	2021	Undergrad student	BU STaRS program	Washington and Lee Univ

### Thesis Defense Committees

Student Name	Degree	University	Year
Jie Quan	PhD	Harvard Medical School	2013
Karie Heinecke	MS	Boston College	2014
Josh Meidenbauer	PhD	Boston College	2014
Patrick Grady	PhD	Boston College	2015
Margaret Bennett	MS	Boston College	2016
Sean Ruvolo	MS	Boston College	2016
Nicholas Worley	MS	Boston College	2016
Alicia Nugent	PhD	Harvard Medical School	2016
Sudeshna Saha	PhD	Boston College	2016
Zach Feiger	PhD	Brandeis University	2016
Sergine Brutus	PhD	Harvard Medical School	2020
Gavin Rosen	MS	Boston University	2022

### PhD Thesis Comprehensive Exam Committees

Student Name	University	Year
Alexander Auld	Boston College	2015
Johnathan Meaders	Boston College	2016
Sean Ruvolo	Boston College	2016
Mary Ann Collins	Boston College	2016
Torrey Mandigo	Boston College	2017
Catherine May	Boston College	2019
Stacy Nguyen	Boston College	2019

### Other Professional Activities:

#### Professional Societies: Memberships, Offices, and Committee Assignments:

##### Regional

2015-2018      Member, New England Society for Microscopy (Board Member, 2016-2018)  
 Feb 2016      Co-Organizer, New England Society for Microscopy Spring Meeting, Boston College, MA  
 July 2018      Session Chair, New England Craniofacial Meeting, Boston College, MA

##### National

#### *American Society for Cell Biology*

2011-present      Member  
 Dec 2015      Co-Organizer and Co-Chair, Annual Meeting Special Interest Subgroup

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Dec 2015	Table Leader, Applying for an Academic Faculty Position, Career Discussion and Mentoring Roundtables, Annual Meeting, San Diego
Sept 2016	Abstract Reviewer, Microtubule Poster Session, Annual Meeting
Dec 2016	Co-Organizer and Co-Chair, Annual Meeting Special Interest Subgroup
Dec 2017	Co-Organizer and Co-Chair, Annual Meeting Special Interest Subgroup
Sept 2018	Abstract Reviewer, Microtubule Poster Session, Annual Meeting
Dec 2019	Co-Chair, Annual Meeting Minisymposium, Cytoskeletal Dynamics, Washington DC

### ***Society for Developmental Biology***

2003-2020	Member
April 2015	Judge, Research Poster Awards, Northeast Meeting, Woods Hole, MA
April 2016	Co-Organizer and Co-Chair, Northeast Meeting, Woods Hole, MA
Aug 2016	Judge, Research Poster Awards, National Meeting, Boston, MA
Aug 2016	Session Leader, Grant Writing Strategies, National Mtg Faculty Bootcamp, Boston, MA
April 2017	Judge, Research Poster Awards, Northeast Meeting, Woods Hole, MA
April 2018	Judge, Research Poster Awards, Northeast Meeting, Woods Hole, MA
April 2019	Judge, Research Poster Awards, Northeast Meeting, Woods Hole, MA

### ***Other National Societies***

2012-2018	Member, Society for Neuroscience
2013-2018	Member, Genetics Society of America

### **International**

#### ***International Xenopus Community***

Aug 2013	Panelist, Advice for Senior Post-docs, Xenopus Meeting, Woods Hole, MA
Aug 2014	Judge, Research Poster Awards, International meeting, Asilomar, CA
Sept 2015	Co-Organizer and Co-Chair, International Xenopus Principal Investigator's meeting, Woods Hole, MA
Aug 2018	Judge, Research Poster Awards, International meeting, Seattle WA
Feb 2022-present	Member, External Advisory Board, Xenbase

#### ***Other International***

May 2016	Session Chair, Microtubules in Neurons Session, EMBL Microtubule Meeting, Heidelberg, Germany
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### **Community service related to academic professional work:**

#### ***Boston College***

June 2014	Panelist, Preparing Future Faculty Event, Graduate School of Arts and Sciences
Feb 2015	Speaker, Halftime Retreat for student vocational discernment
May 2015	Speaker, College of Arts and Sciences Alumni Reunion Weekend (re: Future of Science)
Sept 2015	Speaker, Parents' Weekend College of Arts and Sciences Dean's Luncheon
Feb 2016	Speaker, Research Opportunities for Undergrads, Presidential Scholar Candidates
March 2016	Panelist, Authorship Issues, Research and Scholarship Integrity Day
April 2016	Speaker, Eagle Admit Day Biology Program Presentation
Feb 2017	Speaker, Research Opportunities for Undergrads, Presidential Scholar Candidates
April 2017	Speaker, Eagle Admit Day Biology Program Presentation
Aug 2017	Speaker, Halftime Retreat for student vocational discernment
Nov 2017	Speaker, Philosophical Society, Discussion on Gene Editing
Dec 2017	Speaker, Board of Trustees Meeting, Promoting Formation of Schiller Institute
Feb 2018	Keynote Speaker, Order of the Cross and Crown Honor Society Induction Ceremony
April 2018	Speaker, Eagle Admit Day Biology Program Presentation

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April 2018	Keynote Speaker, ACC Regional Undergrad Research Conference, Meeting of the Minds
May 2018	Panelist, Postdoc-PI Transition Panel, Post-Doc Association
Sept 2018	Faculty Speaker, STRIDE Program Sophomore undergraduate leadership program
Jan 2019	Keynote Speaker, Inaugural Leadership Day
Jan 2019	Speaker, Eagle Admit Day Biology Program Presentation
Sept 2019	Faculty Speaker, STRIDE Program Sophomore undergraduate leadership program
9/2018-12/2019	Faculty Advisor, American Red Cross
9/2018-12/2019	Faculty Advisor, Camp Kesem

### Other Institutions

Aug 2013	Panelist, The Academic Job Search Series: Postdoc to PI Panel, Harvard Medical School
April 2015	Panelist, “Academic Research Careers” Development Session, Brandeis University
April 2016	Panelist, “Academic Careers at Research/Teaching Institutions,” Harvard Medical School
May 2017	Panelist, New Faculty Career Development Panel, Boston Children’s Hospital

### Editorial Boards:

2018-present	Review Editor, <i>Frontiers in Molecular Neuroscience</i>
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### Ad hoc reviewing

*Aging – Biophysical Journal - Cell Reports - Cold Spring Harbor Laboratory Press - Current Biology - Developmental Biology - Developmental Neurobiology - F1000 Faculty Reviews - Frontiers in Cellular Neuroscience - Frontiers in Molecular Neuroscience - Human Molecular Genetics - International Journal of Developmental Biology - Journal of Anatomy - Journal of Cell Biology - Journal of Cell Science - Journal of Developmental Biology - Journal of Integrative Neuroscience - Journal of Molecular Biology - Journal of Neurochemistry - Journal of Neurology and Experimental Neuroscience - Journal of Pediatric Epilepsy - Journal of Pediatric Genetics - Journal of Visualized Experiments - Molecular and Cellular Neuroscience - Molecular Biology of the Cell - PLOS Genetics - PLOS Pathogens - Scientific Reports - Trends in Neuroscience*

11<sup>th</sup> edition of *Developmental Biology* by Scott Gilbert and Michael Barresi – Sinauer Associates (Chapter 15: Neural Crest Cells and Axonal Specificity)

### Major Committee Assignments:

#### Study Sections:

##### Federal

Oct 2017	National Institutes of Health SYN Study Section – ad hoc reviewer
Oct 2017	National Science Foundation Division of Integrative Organismal Systems (Neural Systems Cluster) – mail in reviewer
Apr 2021	National Science Foundation Division of Integrative Organismal Systems (Developmental Mechanisms and Evo/Devo Cluster) – panel reviewer
June 2021	American Cancer Society – Metastasis and Microenvironment Peer Review Committee

### International Foundations

2014, 2016	The Wellcome Trust, United Kingdom
2014, 2017, 2020	Medical Research Council, United Kingdom
2015	French National Research Agency (ANR)
2016	Netherlands Organization for Scientific Research (NOW) – Earth and Life Sciences division
2021	Israel Science Foundation



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### Other Support: (totaling \$7,904,609 external funding)

#### Current

- 5/2016-12/2026 R01 MH109651, National Institutes of Health. PI: Laura Lowery, Elucidating mechanistic connections between guidance signaling, microtubule regulation, and growth cone steering  
**Total Cost:** \$4,147,378 **Role:** PI
- 11/2021-10/2022 Ellison Foundation Grant, PI: Laura Lowery, Reducing the severity of melanoma  
**Total Cost:** \$150,000 **Role:** PI

#### Past

- 7/2016-6/2021 RSG-16-144-01, American Cancer Society Research Scholar Grant. PI: Laura Lowery, Exploring the mechanism by which TACC proteins promote cell motility  
**Total Cost:** \$787,000 **Role:** PI
- 1/2017-12/2019 5 R01 GM121907, National Institutes of Health. PI: Santosh Girirajan (Penn State University), Genomics basis of phenotypic variability in intellectual disability disorders  
**Total Cost:** \$125,728 **Role:** Sub-contract Collaborator
- 7/2017-12/2019 Grant No. 1656510, National Science Foundation. PI: Bryan Ballif (Univ of Vermont), A biochemical, proteomic and functional delineation of DcblD1 and 2 signaling during zebrafish neural retina development  
**Total Cost:** \$20,524 **Role:** Sub-contract Collaborator
- 6/2018-12/2019 Beckman Scholars Program Award, PI: Laura Lowery, Boston College Beckman Scholars Undergraduate Research Program  
**Total Cost:** \$156,000 **Role:** Co-Investigator
- 9/2018-10/2019 Charles H. Hood Foundation Bridge Funding, PI: Laura Lowery, Role of TACC3 in cranial neural crest cell migration: implications for craniofacial disorders  
**Total Cost:** \$10,000 **Role:** PI
- 9/2016-8/2019 Grant No. 1560200, National Science Foundation. PI: Ken Burch, REU Site: Integrated Science for Society  
**Total Cost:** \$343,816 **Role:** co-PI
- 3/2016-2/2019 R03 DE025824, National Institutes of Health. PI: Laura Lowery, Role of TACC3 in cranial neural crest cell migration: implications for craniofacial disorders  
**Total Cost:** \$234,750 **Role:** PI
- 9/2016-8/2019 Grant No. 1626072, National Science Foundation. PI: Laura Lowery, MRI: Acquisition of a super resolution microscope for Boston College  
**Total Cost:** \$454,399 **Role:** PI
- 6/2016-10/2018 Grant #1-FY16-220, March of Dimes Research Grant. PI: Laura Lowery, Role of TACC3 in cranial neural crest cell migration: implications for craniofacial disorders  
**Total Cost:** \$131,251 **Role:** PI
- 6/2014-5/2017 NSF Graduate Research Fellowship. PI: Beth Bearce, Investigating the role of Maskin and microtubule dynamics in a neural model of cellular migration  
**Total Cost:** \$135,000 **Role:** mentor

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2/2014-5/2017	5 R00 MH095768, National Institutes of Health. PI: Laura Lowery, Function of microtubule plus-end-tracking proteins in the neuronal growth cone <b>Total Cost:</b> \$746,997 <b>Role:</b> PI
1/2012-1/2014	5 K99 MH095768, National Institutes of Health. PI: Laura Lowery, Function of microtubule plus-end-tracking proteins in the neuronal growth cone <b>Total Cost:</b> \$182,088 <b>Role:</b> PI
8/2008-7/2011	5 F32 NS063512, National Institutes of Health. PI: Laura Lowery, Role of msps and tacc during axon guidance <b>Total Cost:</b> \$146,394 <b>Role:</b> PI
6/2005-6/2008	5 F31 MH073353, National Institutes of Health. PI: Laura Lowery, Brain ventricle development and mental health <b>Total Cost:</b> \$133,284 <b>Role:</b> PI

### Invited Lectures

#### Invited Seminars at Universities

Nov 2, 2010	Coordination of Cytoskeletal Dynamics during Axon Guidance, Smith College, Life Sciences Colloquium Lecture Series
May 20, 2013	Quantitative live imaging and function of microtubule plus-end-tracking proteins in the neuronal growth cone, Developmental Neurobiology Group Meeting, Department of Neuroscience, University of Wisconsin-Madison
May 6, 2014	Regulation of microtubule plus-end dynamics during growth cone motility, Boston Children's Hospital Informal Seminar
Sept 8, 2014	Regulation of microtubule plus-end dynamics during growth cone motility, Brandeis University, Molecular Genetics Seminar
Oct 10, 2014	Regulation of microtubule plus-end dynamics during growth cone motility, University of Albany, State University of New York, Department of Biological Sciences Seminar
Nov 10, 2014	Regulation of microtubule plus-end dynamics during growth cone motility, University of Vermont, Department of Biology Seminar
Nov 13, 2014	Regulation of microtubule plus-end dynamics during growth cone motility, Yale University, Molecular Biophysics and Biochemistry Informal Seminar
Feb 25, 2015	Regulation of microtubule plus-end dynamics during growth cone motility, Pennsylvania State University, Neuroscience Seminar
March 10, 2015	Regulation of microtubule plus-end dynamics during growth cone motility, Tufts University, Integrated Science Program Seminar
Sept 17, 2015	Regulation of microtubule plus-end dynamics during growth cone motility, Albert Einstein College of Medicine, Department of Physiology and Biophysics Seminar
Oct 15, 2015	Regulation of microtubule plus-end dynamics during growth cone motility, Stony Brook University, Biochemistry and Cell Biology Seminar
Nov 2, 2015	Regulation of microtubule plus-end dynamics during growth cone motility, McGill University, Department of Biology Molecular Seminar

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- Jan 15, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, University of Southern California, Center for Craniofacial Molecular Biology Seminar
- March 7, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, Columbia University, Pathology and Cell Biology Seminar Series
- March 23, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, University of Massachusetts, Lowell, Biology Colloquium
- April 26, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, University of Washington, Department of Biochemistry Seminar Series
- May 11, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, Drexel University, Department of Neurobiology and Anatomy Seminar Series
- June 21, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, Temple University, Shriners Hospitals for Children Pediatric Research Center Seminar Series
- July 13, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, University of Wisconsin Madison, Integrated Biological Sciences Summer Research Program Seminar
- July 27, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, University of California, Los Angeles, Cytoskeletal Club Seminar
- Aug 18, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, Massachusetts Institute of Technology, Gertler Lab Group Meeting
- Sept 13, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, University of North Carolina – Chapel Hill, Special Seminar
- Oct 5, 2016 Regulation of microtubule plus-end dynamics during cell migration, College of Saint Rose, Colloquium for Science Majors
- Oct 17, 2016 Regulation of microtubule plus-end dynamics during cell migration, University of Richmond, Biology Department Seminar Series
- Nov 1, 2016 Regulation of microtubule plus-end dynamics during growth cone motility and axon guidance, 15th Anniversary Nikon Imaging Symposium, Harvard Medical School
- Nov 7, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, University of California, San Francisco, Informal Seminar
- Nov 8, 2016 Regulation of microtubule plus-end dynamics during growth cone motility, University of California, Berkeley, Informal Seminar
- Nov 9, 2016 Regulation of microtubule plus-end dynamics during cell migration, University of California, Davis, Molecular and Cellular Biology Seminar Series
- Jan 9, 2017 Regulation of microtubule plus-end dynamics during cell migration, California Institute of Technology, Informal Seminar
- Jan 17, 2017 Regulation of microtubule plus-end dynamics during cell migration, University of Massachusetts, Amherst, Molecular & Cellular Biology Graduate Program Seminar Series
- March 8, 2017 Regulation of microtubule plus-end dynamics during cell migration, Massachusetts Institute of Technology, Biophysics Seminar Series
- April 25, 2017 Regulation of microtubule plus-end dynamics during growth cone migration, Purdue University, Neuroscience Seminar Series
- July 11, 2017 Regulation of microtubule plus-end dynamics during cell migration, University of Minnesota, Informal Seminar

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- Feb 26, 2018 Regulation of microtubule plus-end dynamics during cell migration, Bentley University, American Cancer Society Relay for Life Talks
- March 9, 2018 Regulation of microtubule plus-end dynamics during cell migration, Whitehead Institute, Whitehead Forum Seminar
- May 30, 2018 Regulation of microtubule plus-end dynamics during cell migration, University of Texas Health San Antonio, Department of Pharmacology Seminar
- June 4, 2018 Regulation of microtubule plus-end dynamics during growth cone motility and axon guidance, Tufts University, Allen Discovery Center Seminar Series
- Nov 11, 2019 Regulation of microtubule plus-end dynamics during growth cone motility and axon guidance, Tufts University School of Medicine, Department of Developmental, Molecular, and Chemical Biology Seminar Series
- Dec 5, 2019 Regulation of microtubule plus-end dynamics during cell migration, Cancer Center Grand Rounds, Boston University Medical Center
- May 2, 2020 Regulation of microtubule plus-end dynamics during cell migration, Whitehead Institute Symposium (*cancelled due to COVID-19*)
- Oct 23, 2020 Regulation of microtubule plus-end dynamics during cell migration, Department of Chemistry and Biochemistry Seminar, California State University Long Beach
- Nov 16, 2020 Regulation of microtubule plus-end dynamics during cell migration, Department of Biochemistry Seminar, Boston University School of Medicine
- Apr 21, 2021 Regulation of cytoskeletal dynamics during cell migration, Loyola University Chicago, Department of Biology Seminar Series

### Invited Lectures at Conferences

#### Regional

- April 26, 2019 TACC3, a microtubule plus-end tracking protein (+TIP), promotes cell motility during embryonic development. *New England Society for Microscopy Spring Symposium*, Marine Biological Laboratory, Woods Hole, MA [*Keynote Presentation*]

#### National

- Dec 3, 2011 Quantitative live imaging and function of microtubule plus-end-tracking proteins in the neuronal growth cone. Annual Meeting of the American Society for Cell Biology, Special Interest Subgroup, Denver, CO
- Oct 10, 2012 Quantitative live imaging and function of microtubule plus-end-tracking proteins in the neuronal growth cone. Growth Cones and Axon Regeneration, New Orleans, LA
- Oct 13, 2012 Quantitative live imaging and function of microtubule plus-end-tracking proteins in the neuronal growth cone. Annual Meeting of the Society for Neuroscience, Nanosymposium on Neurite Outgrowth, New Orleans, LA
- Nov 3, 2014 A tale of two tip-trackers: regulation of microtubule dynamics in axon outgrowth, Axonal Transport and Neuronal Mechanics Workshop, Mathematical Bioscience Institute at Ohio State University
- Dec 12, 2015 Regulation of microtubule plus-end dynamics during axon outgrowth. Annual Meeting for the American Society for Cell Biology, Special Interest Subgroup: Neuronal Cytoskeleton, San Diego, CA

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- Aug 21, 2017 Regulation of microtubule plus-end dynamics during growth cone guidance and cell migration, *Xenopus Imaging Workshop*, Marine Biological Laboratory, Woods Hole MA
- Sept 27, 2017 Regulation of microtubule plus-end dynamics during growth cone guidance and cell migration, LabRoots Cell Biology 2017 Conference (virtual)
- Dec 7, 2019 Regulation of microtubule plus-end dynamics during growth cone guidance and cell migration, *Annual Meeting for the American Society for Cell Biology*, Minisymposium: Cytoskeleton, Washington DC
- Sept 22, 2021 Regulation of microtubule plus-end dynamics during cell migration, LabRoots Cell Biology 2021 Conference (virtual)

### International

#### *International Xenopus Conferences*

- Aug 24, 2014 Regulation of microtubule dynamics in growth cone motility, 15<sup>th</sup>, Asilomar, CA
- Sept 28, 2015 Regulation of microtubule dynamics in embryonic development by TACC protein family members, *PI Meeting*, Woods Hole, MA
- Aug 26, 2017 Regulation of microtubule plus-end dynamics during embryonic cell migration, *International Xenopus Resources and Emerging Technologies Meeting*, Woods Hole, MA
- Aug 12, 2018 Investigating the embryonic functions of genes associated with Wolf-Hirschhorn Syndrome. 17<sup>th</sup>, University of Washington, Seattle
- Aug 25, 2020 Investigating the embryonic functions of genes associated with Intellectual Disability Disorders. 18<sup>th</sup>, University of Portsmouth, United Kingdom (*cancelled due to COVID-19*)
- Aug 15, 2021 Investigating the role of the CoREST repressor complex in melanoma metastasis in vivo. 18<sup>th</sup>, University of Portsmouth, United Kingdom

### Other

- March 22, 2015 Regulation of microtubule dynamics in growth cone motility, *3rd Biennial Emerging Concepts of the Neuronal Cytoskeleton EMBO Workshop*, Puerto Varas, Chile

**Bibliography:**

<https://orcid.org/0000-0001-8959-2679>

<https://www.ncbi.nlm.nih.gov/myncbi/1DutBAUULYIQS/bibliography/public/>

Mentees are underlined and denoted as undergrads<sup>#</sup>, grad students<sup>^</sup>, post-docs<sup>Ω</sup>

†Corresponding author

**Original, Peer Reviewed Articles:**

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2. **Hardaker LA**, Singer E, Kerr R, Zhou G, Schafer WR. (2001) Serotonin modulates locomotory behavior and coordinates egg-laying and movement in *Caenorhabditis elegans*. *Journal of Neurobiology* 49 (4):303-13. PMID: 11745666
3. **Lowery LA** and Sive H. (2005) Initial formation of zebrafish brain ventricles occurs independently of circulation and requires the *nagie oko* and *snakehead/atp1a1a.1* gene products. *Development* 132(9):2057-67. PMID: 15788456  
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5. Gutzman JH, Graeden E, **Lowery LA**, Holley H, Sive H. (2008) Formation of the midbrain hindbrain boundary constriction requires laminin-dependent basal constriction. *Mechanisms of Development* 125(11-12):975-83. PMID: 18682291 PMCID: PMC2780020
6. **Lowery LA**, De Rienzo G, Gutzman J, and Sive H. (2009) Characterization and classification of zebrafish brain morphology mutants. *Anatomical Record* 292(1):94-106. PMID: 19051268 PMCID: PMC2894611
7. **Lowery LA**, Lee H, Lu C, Murphy R, Obar RA, Zhai B, Schedl M, Van Vactor D, Zhan Y. (2010) Parallel genetic and proteomic screens identify Msps as a CLASP-Abl pathway interactor in *Drosophila*. *Genetics* 185(4):1311-25. PMID: 20498300 PMCID: PMC2927758
8. Chang J, **Lowery LA**, Sive H. (2012) Multiple roles for the Na,K-ATPase subunits, *Atp1a1* and *Fxyd1*, during brain ventricle development. *Developmental Biology* 368 (2):312-22. PMID: 22683378 PMCID: PMC3402628
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10. **Lowery LA**, Faris A<sup>#</sup>, Stout A<sup>#</sup>, Ding L, Baird M, Davidson M, Danuser G, Van Vactor D. (2013) Growth cone-specific functions of XMAP215 in restricting microtubule dynamics and promoting axonal outgrowth. *Neural Development* 8:22. PMID: 24289819 PMCID: PMC3907036
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13. Lucaj C<sup>#</sup>/Evans M<sup>#</sup>, Nwagbara B<sup>#</sup>, Ebbert P<sup>#</sup>, Baker C<sup>#</sup>, Volk J<sup>#</sup>, Francl A<sup>#</sup>, Ruvolo S<sup>^</sup>, **Lowery LA<sup>†</sup>**. (2015) Xenopus TACC1 is a microtubule plus-end-tracking protein that can regulate microtubule dynamics during embryonic development. *Cytoskeleton*, 72(5):225-34. PMID: 26012630 PMCID: PMC4520305

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17. Erdogan B<sup>Δ</sup>, Cammarata G<sup>Δ</sup>, Francl A<sup>#</sup>, Lee E<sup>#</sup>, Pratt B<sup>#</sup>, Rutherford E<sup>#</sup>, **Lowery LA<sup>†</sup>**. (2017) The microtubule plus-end-tracking protein TACC3 promotes axon outgrowth and mediates responses to guidance signals during development. *Neural Development*, 12(1):3. PMID: 28202041 PMCID: PMC5312526
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### Book Chapters

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### Selected Abstract Oral Presentations

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|----------------|--|
| July 29, 2004  | Investigation of Genetic Mechanisms Underlying Brain Ventricle Morphogenesis. 6 <sup>th</sup> International Meeting on Zebrafish Development and Genetics, Madison, WI   |
| April 23, 2010 | Parallel genetic and proteomic screens identify Msps as a CLASP-Abl pathway interactor in <i>Drosophila</i> . North East Society of Developmental Biology, MBL, Woods Hole, MA   |
| March 25, 2011 | Quantitative live imaging and function of microtubule plus-end-tracking proteins in the neuronal growth cone. North East Society of Developmental Biology, MBL, Woods Hole, MA   |
| July 21, 2011  | Antagonism between the Microtubule Plus-End-Tracking Proteins Msps and CLASP during Abl Kinase-mediated axon pathfinding. Annual Meeting for the Society of Developmental Biology, Hilde Mangold Postdoctoral Symposium, Chicago, IL                             |
| Dec 15, 2012   | Knockdown of microtubule polymerase XMAP215 can increase microtubule polymerization in <i>Xenopus laevis</i> neuronal growth cones, Annual Meeting for the American Society for Cell Biology, Minisymposium on Microtubule Dynamics, San Francisco, CA           |
| Dec 14, 2013   | Growth cone-specific functions of XMAP215 in restricting microtubule dynamics and axon outgrowth, Annual Meeting for the American Society for Cell Biology, ePoster Talk on Cell Biology of the Neuron, New Orleans, LA  |
| April 11, 2014 | Growth cone-specific functions of XMAP215 in restricting microtubule dynamics and axon outgrowth, Northeast Society of Developmental Biology, MBL, Woods Hole, MA  |
| Dec 6, 2014    | TACC3 is a microtubule plus-end tracking protein that promotes axon elongation and MT polymerization in multiple embryonic cell types. Annual Meeting for the American Society for Cell Biology, ePoster Talk Session: Microtubules and Motors, Philadelphia, PA |
| April 10, 2015 | Regulation of microtubule dynamics during embryonic growth cone motility: a tale of a new tip-tracker, Northeast Society of Developmental Biology, MBL, Woods Hole, MA   |
| Dec 3, 2015    | Using live imaging to investigate the regulation of microtubule plus-end dynamics, New England Society for Microscopy Fall Symposium, Whitehead Institute, Cambridge, MA   |
| Aug 28, 2016   | Regulation of microtubule plus-end dynamics by TACC3 during axon guidance. 16th International <i>Xenopus</i> Meeting, The Orthodox Academy of Crete, Greece  |